Title (en)

IONIZING RADIATION CURING OF EPOXY RESIN SYSTEMS INCORPORATING CATIONIC PHOTOINITIATORS

Title (de)

DURCH IONISIERENDE STRAHLUNG HÄRTENDE, KATIONISCHE PHOTOINITIATOREN ENTHALTENDE EPOXIDHARZSYSTEME

Title (fr)

DURCISSAGE PAR RADIATIONS IONISANTES DES SYSTEMES DE RESINES EPOXY INCORPORANT DES PHOTOAMORCEURS CATIONIQUES

Publication

EP 0843685 A1 19980527 (EN)

Application

EP 96925514 A 19960726

Priority

- US 9612302 W 19960726
- US 50756995 A 19950726
- US 67676896 A 19960708

Abstract (en)

[origin: WO9705172A1] Mixtures of toughened epoxy resins with cationic initiators are curable under high energy ionizing radiation such as electron beam radiation, X-ray radiation, and gamma radiation. The composition of this process consists of an epoxy resin, a cationic initiator such as a diaryliodonium or triarylsulfonium salt of specific anions, and a toughening agent such as a thermoplastic, hydroxy-containing thermoplastic oligomer, epoxy-containing thermoplastic oligomer, reactive flexibilizer, rubber, elastomer, or mixture thereof. Cured compositions have high glass transition temperatures, good mechanical properties, and good toughness. These properties are comparable to those of similar thermally cured epoxies. A mixture of epoxy resins such as a semi-solid triglycidyl ether of tris (hydroxyphenyl) methane and a low viscosity bisphenol A glycidyl ether and a cationic photoinitiator such as a diaryliodonium salt is cured by irradiating with a dosage of electron beams from about 50 to about 150 kGy forming a cross-linked epoxy resin polymer.

IPC 1-7

C08F 2/54; C08F 4/14; C08F 4/24; C08J 3/28; C08K 3/04; C08K 3/08; C08K 3/36; C08K 3/40; C08K 5/01; C08K 5/20; C08L 7/00

IPC 8 full level

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CPC (source: EP US)

C08G 59/38 (2013.01 - EP US); **C08G 59/68** (2013.01 - EP US); **C08G 59/687** (2013.01 - EP US); **C08L 63/00** (2013.01 - EP US)

Cited by

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Designated contracting state (EPC)

BE DE ES FR GB IT NL

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